

POST-DEVELOPMENT TREATMENT OF PATTERNED PHOTORESIST
TO PROMOTE CROSS-LINKING OF POLYMER CHAINS

ABSTRACT OF THE DISCLOSURE

5

A method for creating semiconductor devices is provided. A photoresist layer is provided on a wafer. The photoresist layer is patterned. Polymers in the patterned photoresist layer are chemically cross-linked by exposure to at least one reactive chemical. The pattern in the photoresist layer is transferred to the wafer. A reaction chamber for processing a wafer with a patterned layer of photoresist material, wherein the photoresist material was patterned by exposing the photoresist material using light of a wavelength less than 248 nm is provided. A chamber is provided with a central cavity. A wafer support for supporting the wafer in the central cavity is provided. A cross-linking reactive chemical source in fluid contact with the chamber and which provides a reactive chemical which causes cross-linking of the photoresist is provided.

10

15